

I. Summary of Claims

Claims 1-6, 8-12, and 14-21 are currently pending in the application, with claims 1, 9, and 15 being independent claims. Claims 7 and 13 were cancelled in a prior amendment.

The following claim rejections were submitted by the Examiner in the outstanding Office Action:

- Claims 1, 4, 5, 9-11, 15, 18, and 19 were rejected under 35 U.S.C. §103 as being obvious over a combination of Japanese Patent Number 11-265282 to Ichinose and U.S. Patent Number 5,651,132 to Honda, et al.;
- Claims 2 and 16 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Japanese Patent and U.S. Patent Number 5,657,301 to Yoshikawa, et al.;
- Claims 3 and 17 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Japanese Patent and U.S. Patent Number 5,581,485 to Richmond;
- Claims 6, 12, and 20 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Japanese Patent and U.S. Patent Number 5,603,056 to Totani; and
- Claims 8, 14, and 21 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Japanese Patent and U.S. Patent Number 5,307,346 to Fieldhouse.

II. The Rejection Of Claims 1, 4, 5, 9-11, 15, 18, And 19

Claims 1, 4, 5, 9-11, 15, 18, and 19 were rejected under 35 U.S.C. §103 as being obvious over a combination of Japanese Patent Number 11-265282 to Ichinose and U.S. Patent Number 5,651,132 to Honda, et al. Applicant respectfully traverses this rejection, and courteously asks for its reconsideration.

First, Applicant respectfully submits that the Examiner has not set forth the *prima facie* showing of obviousness required to sustain this rejection. Other than having a computer, the vending machine disclosed in the Ichinose patent document and the disk array control system disclosed in the Honda et al. patent are completely unrelated. The Ichinose patent document describes a vending machine executes a control program from a first memory location. If the control program is incomplete at the first memory location, then the vending machine executes a control program from a first memory location. The Honda et al. patent, however, is directed to a relatively complex system for controlling an array of multiple disk drives. It employs buffers and parity data in order to manage the transfer of data to and from the disk drives. While virtually every computer sends data to and retrieves data from a memory, this common feature does not make all computers analogous art. With the instant rejection, arguing that the simple memory access performed by the Ichinose vending machine is analogous to the complex, multi-disk access management described in the Honda et al. patent is like comparing a scooter to a jumbo jet airplane because they both have wheels.

In making this rejection, the Examiner argued that:

...it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of sending data (program or mapping information, etc.) to machine [sic] as taught by Honda into the method for upgrading the vending machine program as taught by Ichinose. The modification would be obvious because one of ordinary skill in the art would be motivated to send a program along with the new associated data information from host computer to optimize parity data update processing. (See Office Action, page 4, line 18 to page 5, line 2.)

Applicant is unclear, however, as to the relevance (or meaning) of this statement. The Ichinose patent document does not teach or suggest the use of parity information. (The Ichinose patent instead refers to checksum data.) Accordingly, one of ordinary skill in the art would not have been led to optimize parity data with the vending machine disclosed in the Ichinose patent

document. On the other hand, sending a new program along with each request from a host computer to transfer data to or retrieve data from an array of disk drives could not possibly optimize the parity data processing for the data to be transferred. Instead, downloading and executing a program with each data transfer request would dramatically slow any parity data processing.

It is respectfully submitted that one of ordinary skill in the art, in fact, would not have been led to combine the teaching of the Honda et al. patent with the teaching of the Ichinose patent document in the manner suggested by the Examiner. The complex data transfer management system of the Honda et al. patent, employing buffers and address location maps, would simply be unwarranted for the relatively simple control program rewrite operation described in the Ichinose patent document.

Second, even if one were to combine the teachings of the Honda et al. patent and the Ichinose patent document in the manner proposed by the Examiner, the combination still would not teach or suggest the features of the invention recited in claims 1, 4, 5, 9-11, 15, 18, and 19. Claims 1, 4, and 5 recite that the "host computer sends to said vending machine...new data mapping information...and a data remapping portion for remapping data used by said current one of the control program based on said current and new data mapping information so that said data can be used by said new one of the control program." Similarly, claims 9-11 recite that the "host computer sends...new data mapping information, and...said rewriter, when performing rewrite of the control program to new one of the control program, executing said data remapping program with reference to said data mapping information received from the host computer to remap data used by said current one of the control program so that said data can be used by said new one of the control program," while claims 15, 18 and 19 recite that the "host computer sends

to said vending machine...new data mapping information which said new one of the control program uses, and...the data remapping portion executes the remapping program in order to remap data used by said current one of the control program, based on said current and new data mapping information."

Applicant respectfully submits that this mapping information and associated remapping operation are not taught or suggested by the Honda et al. patent. As discussed in, e.g., column 4, lines 50-55, column 5, lines 13-17, etc., the array controller 2 performs mapping to identify a memory location in the disk unit group 3. Thus, in using the term "mapping," the Honda et al. refers to the process of reading an existing map to find a memory location corresponding to the transfer requested data. Claims 1, 4, 5, 9-11, 15, 18, and 19, however, recite the process of creating a new map for use by the new control program.

Accordingly, the Honda et al. patent does not teach or suggest the features of the invention recited in claims 1, 4, 5, 9-11, 15, 18, and 19, and the Ichinose patent document does not remedy this omission of the Honda et al. patent. It is therefore urged that no combination of the Honda et al. patent and the Ichinose patent document could teach or suggest the features of the invention recited in any of claims 1, 4, 5, 9-11, 15, 18.

In summary, the Examiner has not made the *prima facie* showing of obviousness required to sustain the rejection of claims 1, 4, 5, 9-11, 15, 18 over the combination of the Honda et al. patent and the Ichinose patent document. Further, no combination would, in any case, teach or suggest the features of the invention recited in these claims. Applicant therefore again asks that the rejection of claims 1, 4, 5, 9-11, 15, 18 over the combination of the Honda et al. patent and the Ichinose patent document be withdrawn.

III. The Rejection Of Claims 2 And 16

Next, claims 2 and 16 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Ichinose patent document and U.S. Patent Number 5,657,301 to Yoshikawa, et al. Applicant respectfully traverses this rejection, and asks for its reconsideration as well.

As discussed in detail above, each of claims 2 and 16 recite the host computer sending new data mapping information and an associated data remapping portion. As implicitly acknowledged by the Examiner in the previous rejection, these features are not taught or suggested by the Ichinose patent document. Applicant respectfully submits that the Yoshikawa et al. patent does not remedy this omission of the Ichinose patent document.¹ It is therefore submitted that no combination of the Ichinose patent document and the Yoshikawa, et al. patent could teach or suggest the features of the invention recited in claims 2 and 16. Accordingly, Applicant asks that the rejection of these claims also be withdrawn.

IV. The Rejection Of Claims 3 And 17

The Examiner next rejected claims 3 and 17 under 35 U.S.C. §103 as being obvious over a combination of the Ichinose patent document and U.S. Patent Number 5,581,485 to Richmond. Applicant respectfully traverses this rejection, and courteously requests its reconsideration.

First, claims 3 and 17 recite a host computer sending a "new one of the control program to said vending machine in accordance with a predetermined schedule." The Richmond patent, however, is completely unrelated to vending machines. Instead, this patent is related to an intelligent digital tape controller. Accordingly, one of ordinary skill in the art would not have

¹ Applicant points out that the Examiner has not relied upon the Honda et al. patent in making this rejection, nor has the Examiner provided any implicit or explicit motivation for combining the Honda et al. patent with the Ichinose patent document and the Yoshikawa et al. patent.

been led to combine the teachings of the Richmond patent with the Ichinose patent document in the manner suggested by the Examiner.

Second, the Richmond patent discloses a control program that suspends operation, i.e., *shuts down*, at predetermined suspend points in a process. This is quite different from providing a new control program. Thus, the asserted combination of the Ichinose patent document and the Richmond patent would not teach or suggest the features of the invention expressly recited in these claims.

Third, as previously noted, each of claims 3 and 17 recite the host computer sending new data mapping information and an associated data remapping portion. As implicitly acknowledged by the Examiner, these features are not taught or suggested by the Ichinose patent document. Applicant respectfully submits that the Richmond patent does not remedy this omission of the Ichinose patent document.² It is therefore submitted that no combination of the Ichinose patent document and the Richmond patent could teach or suggest these features of the invention recited in claims 3 and 17.

In view of the foregoing, Applicant respectfully urges that the rejection of claims 3 and 17 over the combination of the Ichinose patent document and the Richmond patent be withdrawn.

V. The Rejection Of Claims 6, 12 And 20

Claims 6, 12, and 20 then were rejected under 35 U.S.C. §103 as being obvious over a combination of the Ichinose patent document and U.S. Patent Number 5,603,056 to Totani.

Applicant respectfully traverses this rejection, and courteously solicits its reconsideration.

² Applicant points out that the Examiner again has not relied upon the Honda et al. patent in making this rejection, nor has the Examiner provided any implicit or explicit motivation for combining the Honda et al. patent with the Ichinose patent document and the Richmond patent.

Each of claims 6, 12 and 20 recites the host computer sending new data mapping information and an associated data remapping portion (or program), as discussed above. However, as implicitly acknowledged by the Examiner, these features are not taught or suggested by the Ichinose patent document, and Applicant respectfully submits that the Totani et al. patent does not remedy this omission of the Ichinose patent document.³ It is therefore submitted that no combination of the Ichinose patent document and the Totani patent could teach or suggest the features of the invention recited in claims 6, 12 and 20. Accordingly, Applicant asks that the rejection of these claims be withdrawn as well.

VI. The Rejection Of Claims 8, 14, And 21

Lastly, claims 8, 14, and 21 were rejected under 35 U.S.C. §103 as being obvious over a combination of the Japanese Patent and U.S. Patent Number 5,307,346 to Fieldhouse. Applicant respectfully traverses this rejection, and courteously solicits its reconsideration.

As discussed in detail above, each of claims 8, 14 and 21 recites the host computer sending new data mapping information and an associated data remapping portion (or program). These features are not taught or suggested by the Ichinose patent document, however, and Applicant respectfully submits that the Fieldhouse patent does not remedy this omission of the Ichinose patent document.⁴ As with the Honda et al. patent discussed in detail above, the mapping operation disclosed by the Fieldhouse patent refers to "reading" an existing map to route READ and WRITE instructions from a host computer to an appropriate input/output (I/O)

³ Applicant points out that the Examiner has not relied upon the Honda et al. patent in making this rejection, nor has provided any implicit or explicit motivation that would support a combination of the Honda et al. patent with the Ichinose patent document and the Totani patent.

⁴ Applicant again notes that the Examiner has not relied upon the Honda et al. patent in making this rejection, nor has provided any implicit or explicit motivation that would support a combination of the Honda et al. patent with the Ichinose patent document and the Fieldhouse patent.

port. It does not teach or suggest the remapping feature of the invention recited in claims 8, 14, and 21. Applicant therefore submits that no combination of the Ichinose patent document and the Filedhouse patent would teach or suggest the features of the invention recited in claims 8, 14 and 21, and accordingly asks that the rejection of these claims be withdrawn.

VII. Conclusion

In view of the foregoing, Applicant respectfully submits that all claims are in condition for allowance. Applicant therefore courteously asks that the outstanding rejections be withdrawn and that this application now be allowed.

This Amendment is being timely filed by facsimile transmission on August 9, 2005, together with a Petition for a three month extension of time. Should any additional fees be necessary for consideration of this Request or to otherwise maintain the pendency of this application, including any fees under 37 C.F.R. §1.16 and §1.17, the Commissioner is requested to charge deposit account number 19-0733 for the payment of the such fees. If anything further is desirable to place the application in even better form for allowance, the Examiner is respectfully requested to telephone the undersigned representative at (503) 425-6800.

Respectfully submitted,

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